

REMARKS / ARGUMENTS

Applicant thanks the Examiner for the Office Action of June 12, 2007. This Amendment is in full response thereto. Thus, Applicant respectfully requests continued examination and allowance of the application.

Objection to Claims:

Claim 12 was objected to due to the absence of the word "and". Applicants have amended the claim at the suggestion of the Examiner.

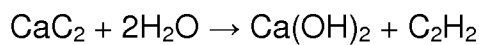
Rejection of Claims Under 35 U.S.C. § 102(b):

Claims 1, 6-10, and 15-19 were rejected under 35 U.S.C. § 102 (b) as anticipated by Bingham (GB600619). Applicants respectfully traverse because Bingham fails to disclose at least one carbon containing material that is at least one of natural gas, methane and C₂-C₈ alkyl and/or aryl hydrocarbons, as required by the amended claims. As such, the rejection should be withdrawn.

Rejection of Claims Under 35 U.S.C. § 103(a):

Claims 2, 4-5, 11, and 13-14 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Bingham in view of Fey (U.S. 4,105,888). Applicants respectfully traverse because neither Bingham nor Fey provides any motivation to combine the references in the manner suggested by the Examiner and the Examiner provides no other motivation.

Bingham discloses acetylene generation by reacting calcium carbide with water. One of ordinary skill in the art will recognize the reaction as the following:



Such an artisan will further recognize that graphite is not a byproduct of such a reaction. On the other hand, Fey discloses an arc heater apparatus for producing acetylene from heavy hydrocarbons.

The Examiner points to two hypothetical advantages taught by Fey as being sources of motivation for one of ordinary skill in the art to combine the teachings of Bingham and Fey in the manner suggested: a) Fey teaches an economical means for producing acetylene, and b) Fey teaches a means to produce acetylene without graphite deposit formation.

With respect to the first putative advantage (a), Applicants respectfully assert that the economical advantage of Fey is not tied to any advantage of the way Fey generates acetylene over the way Bingham generates acetylene. Rather, one of ordinary skill in the art would clearly recognize that at the time of the Fey disclosure, Fey teaches that production of several intermediate products (intermediate to vinyl chloride presumably) using acetylene was nearly economically competitive with production of those intermediates using ethylene. Thus, the economic advantage is that of acetylene versus ethylene, not the calcium carbide/water reaction path of Bingham versus the reaction path of Fey. As such, the putative advantage does not serve as a legally sufficient source of motivation to combine the teachings of Bingham and Fey in the manner suggested.

With respect to the second putative advantage (b), Applicants also respectfully assert that the lack of graphite deposit formation advantage is not tied to any advantage of the Fey device over the Bingham device. Rather, one of ordinary skill in the art would clearly recognize that this second advantage of the Fey device is with respect to a device for generating acetylene that also produces graphite deposit formation. On the other hand, one of ordinary skill in the art would likely consider this advantage irrelevant to an acetylene synthesis reaction not producing graphite deposits, such as the one disclosed by Bingham.

Because the Examiner has failed to provide a legally sufficient motivation for one of ordinary skill in the art to combine the teachings of the references, the arbitrary substitution of the Fey reaction for the Bingham reaction amounts to no more than an impermissible hindsight reconstruction of the claimed subject matter. As such, the rejection should be withdrawn.

Claims 3 and 12 were also rejected under 35 U.S.C. § 103 (a) as being unpatentable over Bingham in view of Kubota (U.S. 5,702,540). Applicants respectfully traverse because neither Bingham nor Kubota disclose, teach or suggest at least one carbon containing material that is at least one of natural gas, methane and C₂-C₈ alkyl and/or aryl hydrocarbons, as required by the amended claims. As such, the rejection should be withdrawn.

Should the Examiner believe a telephone call would expedite the prosecution of the application, the Examiner is invited to call the undersigned attorney at the number listed below. It is believed that no fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

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Air Liquide

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